

REMARKS

Claims 1 and 3-10 are pending in the present application. Claim 2 is herein canceled. Claim 1 is herein amended. New claims 9 and 10 have been added, finding support in the original specification in paragraph [0050]. No new matter has been presented.

Claim Rejections - 35 U.S.C. §103(a)

Claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over Hamamoto et al. (JP 2002-124297) in view of Noh (US 2004/0101762).

Claim 2-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hamamoto et al. in view of Noh as applied to claim 1 above, and further in view of Kanekiyo et al. (JP 2002-313419).

Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Hamamoto et al. in view of Noh, as applied to claim 1 above, and further in view of Kinoshita et al. (US 2004/0091780).

New Rejections

The Board noted that claim 1 requires a nonaqueous electrolyte containing, by mass, 0.1-3.0% vinylene carbonate and 0.1-2.0% di(2-propynyl) oxalate.

Applicant herein amends the claims to clarify the invention. Thereafter, Applicant respectfully disagrees with the rejection because the claimed limitations are neither taught nor suggested by the cited references, alone or in combination.

The battery of amended claim 1 has more than 1.5 g/ml of electrode packing density, and it shows a remarkable effect of providing a high capacity battery without degrading charge/discharge characteristics and increasing battery swelling. The effect is brought by addition of vinylene carbonate (VC) and di(2-propynyl) oxalate (D2PO). Table 3 and [0050] of the present specification clearly shows that the more the electrode packing density is higher, the more saliently effects of adding VC and D2PO to the electrolyte is manifested.

On the other hand, Kaneko et al. and any other former document disclosed do not disclose a battery of which the electrode packing density is higher than 1.34 g/cm^3 . Therefore, it is clear that the former documents do not instruct nor suggest any matter for increasing capacity of a battery without degrading charge/discharge characteristics and increasing battery swelling.

Therefore, the invention of amended claim is sufficiently nonobvious to be granted for patent.

In view of the aforementioned amendments and accompanying remarks, Applicant submits that the claims, as herein amended, are in condition for allowance. Applicant requests such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact the undersigned attorney to arrange for an interview to expedite the disposition of this case.

Application No. 10/584,266
Docket No. 062698

Amendment under 37 C.F.R. § 1.111
Amendment dated January 6, 2012

If this paper is not timely, Applicant petitions for an appropriate extension of time. Any fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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